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ABSTRACT

Recent announcements of new ventures point to the important role of telecommunication in a wide range of media endeavors and underline the importance of adapting communication curricula to prepare students for living and working in an Information Age. An approach to telecommunication curriculum reform is suggested by the experience of the Department of Journalism and Public Communications at the University of Alaska at Anchorage. In reviewing its curriculum, it has used strategies that involved members of the local professional community, pointed to the relevance of telecommunication to the university's mission, and lowered barriers between the traditional professional tracks found in schools of journalism and mass communication. (Twenty-three footnotes are included.) (RS)

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Telecommunication Education as a New Frontier: Institution Building in Alaska

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Abstract

Recent announcements of new ventures point to the important role of telecommunication in a wide range of media endeavors and underline the importance of adapting communication curricula to prepare students for living and working in an Information Age.

An approach to telecommunication curriculum reform is suggested by the experience of the Department of Journalism and Public Communications at the University of Alaska Anchorage. In reviewing its curriculum, it has used strategies that involved members of the local professional community, pointed to the relevance of telecommunication to the University's mission, and lowered barriers between the traditional professional tracks found in schools of journalism and mass communication.

The media environment is undergoing dramatic change at every level. In the early months of 1993 there has been a steady stream of announcements of new ventures in telecommunication, and a number of them contribute to the erosion of perceptions that computer, telephone, broadcast and print communication are distinct enterprises.[1] Telephone companies find themselves in competition or collaborating with cable companies.[2] Newspaper corporations join with computer giants in developing prototypes of new communication media.[3] Executives from dozens of national magazines spend six days together in the Time-Life building doing all the pre-press work for a 92-page full-color magazine on desktop computers. The result is available either in print or as a multimedia (CD-ROM) publication.[4] The chief federal telecommunications regulator, the chairman of the Federal Communications Commission, accepts a position in a branch of the media industry that has never had to concern itself with regulation.[5]

There is every evidence that the Clinton administration, with its interest in developing a "National Information Infrastructure," will promote change in telecommunications. John H. Gibbons, director of the White House Office of

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[1]One such report is of AT&T, Sony Corp., Motorola Inc., Philips Electronics NV and Matsushita Electric Industrial Co. investing in an Apple Computer Inc. project to develop a portable communicator. G. Christian Hill and Ken Yamada, "Five Electronics Giants Hope General Magic Will Turn the Trick: Partners in Novel Software Could Reap Big Rewards, Or Develop 'Vaporware': Living in Fear of Microsoft," *Wall Street Journal*, p. 1, Feb. 8, 1993.

[2]Stewart Alsop, "Cable TV may pass phone companies on data superhighway," *INFO WORLD*, p. 4, April 5, 1993. Several telephone company ventures into video are described in Joe Flint, "Telcos closing in on video: Ameritech joins other telcos in pursuit of video business," *Broadcasting & Cable*, pp. 6-7, 10, March 1, 1993. The most recent such collaboration is described in Associated Press, "U.S. West, Time Warner form $2.5 billion alliance," *Anchorage Daily News*, p. C4, May 18, 1993. The chairman of Time Warner was reported as saying there were few regulatory impediments to the deal.

[3]The Gannett Co., Knight-Ridder Inc., Times Mirror Co., Tribune Co. Hearst Corp., BellSouth and IBM will conduct "news in the future" research with the M.I.T. Media Laboratory, according to a recent announcement. John Markoff, "17 Companies in Electronic News Venture," *New York Times*, pp. C1, C4, May 7, 1993.

[4]Dierdre Carmody, "At the Biggest Magazines, A Revolution Trickles Up," *The New York Times*, May 3, 1993. See also, "Dinosaur! The Electronic Magazine Is Here. Will Traditional Magazine-Making Become Extinct?" *F.y.i.*, Time Inc. company magazine, pp. 1-3, 6, May 3, 1993.

[5]"Former FCC chairman to head Hearst's new media-technology unit," *PNNA* (Pacific Northwest Newspaper Association) *Bulletin*, p. 5, March 24, 1993.

Science and Technology Policy, said as much in testimony before a House committee:

> As you know, the Administration is committed to accelerating the development of the National Information Infrastructure (NII) this Nation needs for the 21st Century. This infrastructure will provide Americans the information they need, when they need it, whether in the form of text, images, video, or sound. These 'information superhighways' will revolutionize the way we work, learn, shop, and live. They promise to have an even greater impact than the interstate freeways or the telephone system. This infrastructure ... will be able to transmit not only voice and fax, but will also provide hundreds of channels of interactive high-definition TV programming, teleconferencing, and access to huge volumes of information.[6]

Changes in the media environment have far-reaching implications. As Gibbons testified, it seems likely these changes will touch the academic community. Where are tomorrow's professionals, the people who will work in this new media environment? Are there evidences of change in university curricula? Is there readiness for change? Is change even possible given the administrative structures and budget constraints of universities?

Just as there are challenges for the academic community in adapting to a changing environment, there are risks in not changing – most especially the risk that a professional program could find itself obsolete. Educators could find themselves a few years from now in confrontations like a recent one involving newspaper publishers. "'You guys are irrelevant,'" they were told, "'You are extinct.'" None of the publishers, we are told, challenged those assertions:

> ... maybe it was because the marketing man was so obviously indulging ... in a bit of overstatement to make his point.
>
> Or perhaps, and this seemed the most likely reason, it was because an outsider had finally put into words the worry that seemed to be on the minds of so many of the publishers of the country's major newspapers as they met here [Boston].

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[6]The White House Office of Science and Technology Policy, Statement of John H. Gibbons, Director, Office of Science and Technology Policy before the Committee on Science, and Technology, U.S. House of Representatives, April 27, 1993.

> The future has just about arrived and it is not clear if, or perhaps what kind of, newspapers will be in it.[7]

This paper reports on the efforts of one academic program, the Department of Journalism and Public Communications at the University of Alaska Anchorage, to address change in mediated communication. A number of strategies were examined, and it is believed that some of them might be useful for other programs.

Alaska and Telecommunications

Alaska would seem to be an ideal location for an innovative telecommunication program because a number of telecommunication applications have been pioneered there. The first broadcast transmission of a facsimile was from New York to Fairbanks just before World War II.[8] Alaska was a pioneer in LPTV, with the first low power television transmission in the state taking place in 1971.[9] By the late 1980s, 248 low power television transmitters were being used to relay the signals of a state-supported satellite television channel.[10] A statewide educational channel, Learn Alaska, was added in 1980.[11] The military tested the capability of bouncing signals off micrometeorites bombarding the atmosphere there.[12] And efforts to use telecommunication to overcome the barriers that

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[7] William Glaberson, "Press: Newspaper publishers consider a heretical new gospel: just how outdated their products are," *New York Times*, May 3, 1993. A multimedia successor of today's newspaper is described in George Garneau, "The New Media Landscape: Publishers urged to be prepared to decouple from newsprint and embrace the electron to meet the needs of the new consumers," *Editor & Publisher*, pp. 14-15, May 8, 1993.

[8] Robin Ann Chlupach, *Airwaves Over Alaska*, p. 46, Sammamish Press, Issquah, Wash., 1992.

[9] Beverly James and Patrick Daley, "Origination of State-Supported Entertainment Television in Rural Alaska," *Journal of Broadcasting and Electronic Media* 31, p. 171, Spring 1987.

[10] A discussion of the formative years of this channel is provided in James and Daley, "Origination of State-Supported Entertainment Television in Rural Alaska," see especially pp. 176-179. In 1985 there were more than twice as many low power TV stations in Alaska as in the other 49 states, Lynne Schafer Gross, *The New Television Technologies* 2nd ed., pp. 114-115, Wm. C. Brown: Dubuque, Iowa, 1986.

[11] It lost its funding and went off the air in the summer of 1986.

[12] Samuel Wood and Forrest Rogers, "We have to look at what we would do if satellite communications were not available," *The Chugach Conference: Discussing The Future of Communication in Alaska*, conference proceedings, pp. 13-17, Aug. 18-19, 1989, University of Alaska Anchorage.

distance and difficult terrain impose on the residents of this sparsely settled state are continuing.

The University of Alaska dates from July 4, 1915, when ground was broken for the first building at the University of Alaska Fairbanks. UAF remains the university system's center for basic research. The history of the University of Alaska Anchorage is much briefer. An Anchorage four-year college, the Anchorage Senior College, was established in November 1970, becoming the University of Alaska, Anchorage by the end of the decade. The University of Alaska Anchorage in its present form dates only from 1987 when the existing university was merged with the adjacent community college. Despite its youth, the University of Alaska Anchorage has about 12,000 students, the largest student body of the three universities within the University of Alaska system (the third university is the University of Alaska Southeast, in Juneau). UAA has no telecommunication or electrical engineering programs. It does have programs in computer science and computer information systems, and it offers telecommunication courses in the Department of Journalism and Public Communications.

UAA is located in the state's largest city – Anchorage population is 240,000, about 40 percent of the state's population – which is also its telecommunication center. The biggest telephone companies, the Alaska headquarters of international oil firms, most of the commercial broadcasters in the state, and the offices of the Alaska Public Utilities Commission are to be found in Anchorage.

Students entering UAA read in its catalog that it "is striving to become a comprehensive urban university that serves the population of Alaska."[13] Even

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[13] *University of Alaska Anchorage, Kodiak, Matanuska-Susitna, Kenai Peninsula Course Catalog 93-94*, p. 16.

more relevant to the issues addressed in this paper, UAA's mission statement says:

> ... the University of Alaska Anchorage has the obligation to encourage and enhance the economic development of the region and state and to assist in the responsible development of natural and human resources. To achieve these goals, the institution cooperates with government, business, and industry. To ensure the responsible development and delivery of programs, the University of Alaska Anchorage involves local citizens in planning programs and services ... [14]

A university's mission statement, because it is a defining statement, is the starting point for an effort such as this. One observer of universities concludes they are feeling "greater political and financial pressure ... to demonstrate their contributions to the local economy" because of the increasing impact of foreign competitition.[15] A professional program in a state where telecommunication is critical to economic development would seem to be given preferred status by the above mission statement. But in the 1990s universities in every state can make this argument just as strongly.

The mission statement is a reminder that the program can not be imposed on the community; it must come from the community. It is community support at every stage of its development that gives a program its credibility. Not stated in the mission statement but important nonetheless is acceptance of the program by the larger academic community. The resources of this larger community are likely to prove most important as a program develops its standards and vision.

The remainder of this paper will discuss the issues of how community support might be developed, how a program might be developed or expanded within a university, and how the academic climate might be created to encourage

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[14] *Ibid.*, p. 17.

[15] Gary C. Anders, "The Changing Role of the Public University in Local Economic Development," *Economic Development Review*, pp. 77-79, Fall 1992.

the development of academic programs that are professionally sound and meet the standards of the academy.

Identifying Needs

The needs of the professional telecommunication community are likely to vary substantially from place to place. In addition, there is the possibility that members of that community will find it difficult to articulate just what their needs are. Those desiring to develop a telecommunication program should provide leadership, but they should also be prepared to listen.

The Department of Journalism and Public Communications at the University of Alaska Anchorage since shortly after it was created in 1980 has had a professional advisory council that has met monthly. This council has included owners and managers of broadcast stations and video production companies as well as representatives of the print media and advertising/public relations firms. Members of the council have repeatedly over the years told the department faculty members what kind of graduates they were looking for and have lobbied the university administration and, on occasion, the legislature for changes they believed would benefit the department.

A further step was taken in 1989 when the department sponsored the first Chugach Conference on the Future of Communication in Alaska. The goal of this conference was to bring together leaders from the various communications industries as well as educators and state officials in the expectation that they would find some common interests. Participants in the two-day conference, which was run much like a seminar with a mixture of speeches and small-group sessions, were asked to identify issues and propose courses of action for solving problems in telecommunication. Conclusions of the small groups included:

> One, we feel there is a crucial need for more education at all levels dealing with the subject of telecommunications. This would be relatively cheap theoretically to do in a sense that it would be policy that perhaps could be implemented on the grade school and high school levels. There was a suggestion of a core course in telecommunications at all universities. That would be across the curricula. It would be less emphasis on technology and perhaps more emphasis on impacts of technology and cause-and effect relationships.[16]

Chugach Conferences were held again in 1990 and 1991. Because of funding constraints, none was held in 1992. In 1993, the state Department of Administration sponsored a similar conference, "Visions of Alaska's Future," in Juneau. About a third of the participants were veterans of Chugach Conferences. There is talk of holding a jointly sponsored Chugach Conference in the fall of 1993.

Discussions of the form telecommunication education should take in Alaska have taken place at the Chugach Conferences and, more importantly, a constituency that crosses the traditional boundaries of the various telecommunication industries has been created. The conferences, which have included a number of speakers from across the country as well as from Canada and England, have helped educate professionals regarding issues that have implications for them. Speakers have explored issues such as access and privacy, various forms of multimedia, native and rural communication, communication as a tool for social change and economic development, and computer conferencing. In a small way, the conferences have demonstrated what a telecommunication program could do.

The conferences have provided an excellent opportunity to lead – and to listen. But they alone are not enough to bring about change in an academic program.

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16 "Number one, develop a vision ..." *The Chugach Conference: Discussing The Future of Communication in Alaska,* conference proceedings, p. 44, Aug. 18-19, 1989, University of Alaska Anchorage.

Working within the University

Participants in the Telecommunications in Education Forum at Temple University early last year included people representing several academic disciplines with "a great deal of diversity" in their approaches to telecommunication education.[17] Only two journalism programs, the ones at UAA and at the University of Colorado, Boulder, were represented. At least some of what follows in this section is most easily applied to programs such as journalism and broadcasting that include telecommunication studies. Several of the programs represented at the forum – ones at the University of Southern California, Temple University, the University of Texas and Michigan State University – included telecommunication studies.

The gradually emerging goal at UAA has been to increase the flexibility of the journalism program, that is its ability to adapt – or at least to remain relevant – as the media industries change. The challenge for faculty members interested in telecommunication studies is described in the forum summary:

> An advantage of telecommunications studies in traditional mass media, communications, or broadcast and film departments are that they draw upon the financial resources and students of the larger more established department. Disadvantages are that they do not often have the clout necessary for hiring faculty that are not in the mass media mold, faculty needed to expand the traditional communications a telecommunications focus requires and they do not have the visibility often necessary to attract outstanding students.[18]

However, as already noted, recent events are strengthening the arguments for paying attention to the telecommunication components of communication programs. While traditional jobs remain, the changes brought by changing technologies in the workplace can not be ignored. Television companies need film

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[17] Herbert S. Dordick, "Summary of Major Points," National Telecommunications Forum document, p. 1, 1992.
[18] *Ibid.*

editors, people who can run cameras, graphic artists, and reporters; telephone companies, if AT&T's TV ads are to be believed, will soon need graphic artists and people with other media skills[19]; both need people who understand FCC regulations; newspapers and magazines need reporters, graphic artists, and photographers, and may soon need people with multimedia skills. All of them need researchers. Many of these people work at computers; many of them have to know something about transmission technologies and their capabilities; many of them need training in management skills. This is the part of the telecommunication job market that professional communication programs can address. This job listing, while not attempting to be comprehensive, intentionally excludes engineers for two reasons: UAA does not have engineering courses that might contribute to a telecommunication program and the orientation of the department reexamining its offerings is toward the liberal arts.

The fact that the program at UAA is a small one has also been an important factor in decisions about telecommunication. The department has about 250 undergraduate majors, five full-time faculty members and several adjunct faculty members. Only one faculty member is a telecommunication professor although a second, the author, has a strong interest in telecommunication.

Change in this situation means realigning limited resources, attracting additional resources, or encouraging the creation of an independent telecommunication program. The department is pursuing the first two courses of action. Strong community support as well as substantial outside funding would be required to make the third option practical.[20]

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[19] A newspaper article about the ads notes that AT&T "is involved in a number of alliances with other companies to develop multimedia and personal communications." Evan Ramstad, Associated Press, "Ads offer viewers a glimpse of a high-technology future," *Anchorage Daily News*, pp. C1, C6, May 18, 1993.

[20] Briefly, in 1990, this third option looked like a real possibility. United Utilities, which was trying to win approval in a referendum vote to purchase the city-owned Anchorage Telephone Utility, offered to give UAA

One of the first actions the department took to win recognition of the importance of telecommunication in Alaska was to seek inclusion of telecommunication in UAA's mission statement in 1987 when the university was reorganized. This effort failed, but the department this year has raised the issue again. Just this month faculty members reporting on the Juneau conference at a meeting of the university's deans and directors argued that events there demonstrated telecommunications is an important enough concern of the state to be included in the university's mission statement.

Recognition within a university's mission statement would provide a telecommunication program with some security -- more security perhaps than the UAA administration wished to provide in 1987. At older universities it is questionable that a change in a document as basic as a mission statement is even a practical undertaking. Program changes substantial enough to call for campuswide faculty votes and major administrative commitments will also meet resistance.[21] Changing emphases within an existing program is likely to prove somewhat easier.

Changes in workplace technologies have forced journalism, broadcasting and mass communication programs to revise a number of their courses in recent years. To mention just a few: One of the earliest such changes was the adoption of cold-type technology by newspapers, which eliminated proofreading as an occupation, marginalized proofreading exercises in editing courses and turned type labs into artifacts. Computer pagination brought more changes to newsrooms and to courses where students were being taught how to lay out pages

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$1 million for a telecommunication program if it won the referendum. It did not; the utility is still owned by the city.

[21] Anders cites James A. Kuhlman as seeing substantial tensions within the "modern university" between faculties in the 'quality-oriented' classical disciplines, and those in the 'utility-oriented' fields of science, engineering, and business." Telecommunication would also seem to fall in the latter category. Anders, "The Changing Role of the Public University ..." p. 76.

on paper. Now we face filmless photography, an innovation that makes the barriers between the traditional tracks of print and broadcasting in journalism programs look like artificial constructions.

Digital photography is blurring the distinction between still photography and video. How many frames a second do you want to shoot? Slower than that, it's still photography, faster than that it's full-motion video. Soon the photographer rather than the camera will make the decision regarding what the form of the output will be. Just as distinctions between the tools used to prepare content for different media are becoming increasingly subtle, the distinctions among the media themselves are blurring. This forces us to ask new questions, to consider what professional skills can be applied across media boundaries as well as what skills will remain linked to particular media for the foreseeable future. In what ways is editing for television like editing for an electronic newspaper, a print newspaper, for multimedia? In what ways is it different?

Changing technologies, and the impossibility of predicting what lies five or ten years ahead, militate against giving professional communication programs a strong technology emphasis. The strongest programs, it would seem, will be those that emphasize principles that are not tied to specific technologies. That direction of development, it would also seem, is one most likely to satisfy academic observers of a telecommunication program.

The UAA journalism and public communications faculty has spent considerable time during the academic year just ending in a review of its undergraduate curriculum. The goal was to reach agreement on a revised curriculum that could be put into effect during the 1995-96 academic year. The department, because it is small, does not offer formal sequences but allows students to select five courses from one of four option areas: print journalism, telecommunications, advertising or public relations. All majors are required to

take seven core courses, four of which contain some telecommunication content: Introduction to Mass Communication, Understanding Aural and Visual Communications, Communication Law and Communication Research.

Near the end of the year the faculty agreed on a new, five-course core that retained only the Introduction to Mass Communication and Visual Communication courses. A newswriting course that had been part of the old core was replaced by a writing for the media course resembling the one pioneered at the University of Minnesota School of Journalism and Mass Communication in the early 1980s by Jean Ward. The other two courses in the core are new: Credibility and Ethics in the Media and a Senior Seminar. The intent is to provide a sequence of courses that will take a broad view of the media and carry students from their freshman through senior years. The two new courses were proposed by James D. Atwater, a visiting professor and former dean of the School of Journalism at the University of Missouri. He also drafted, and the faculty approved, a curriculum statement that says, in part:

> The department will strive to prepare its students for a rapidly evolving world of communications in the Age of Information.
>
> Our graduates are likely to have many different jobs in the years ahead, and may move between, and among, the disciplines we teach: the print and electronic branches of journalism, telecommunications, advertising and public relations.
>
> The curriculum will emphasize the fundamentals that underlie all principled communication: the need for accuracy, clarity, fairness, an approach that attracts an audience, and a basic sense of ethics.[22]

Changing the focus of courses such as newswriting had implications for courses in each of the option areas, as did removal of the law and research courses from the required core. Faculty members considered options that ranged from expanding the number of courses required in the options (making them more like sequences) to requiring students to take courses in two options rather

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[22] James D. Atwater, "The Curriculum: Concepts and Components," draft document, April 1, 1993.

than one. Discussions continued past the end of spring semester – they continue still – but it appears agreement has at last been reached on the main issue.

Options are to be eliminated. Students will be required to take eight courses (in addition to the five-course core), including at least four skills courses and three theory/principles courses. They can take whichever skills courses they feel will best prepare them for an entry-level position in the field they want to enter. It will, for the first time, be easy for a student to take a mixture of journalism and telecommunication or telecommunication and advertising courses. It removes constraints for faculty members, too, who no longer will be identified as the advertising professor, the telecommunication professor, etc. The faculty members believe this new curriculum gives both students and the program itself needed flexibility.

Even curriculum reform as described above can profit from additional resources, though it does not require them. Two courses of action that would require additional resources appear open to UAA. Both are based on the assumption that there are a large number of telecommunication professionals in Anchorage who would like additional education. The more modest course of action would be to offer a summer program in telecommunication aimed at early- to mid-career professionals. The program could offer courses that addressed technology, policy, regulatory and management issues. The summer program could take advantage of Alaska's appeal as a vacation spot to attract students and guest faculty members from other parts of the United States. Quite possibly such a program could become self-supporting within a year or two and help provide the demand and justification for a master's level program in telecommunication.

The master's program in telecommunication is the second long-term goal. Demand for such a program, however, needs to be clearly demonstrated. Moreover, graduate programs in other departments need to be strong enough to

provide courses of value to telecommunication majors. And, because it is such a young university, it is not clear that that is yet the case at UAA even though some master's programs have been established. In the short run, it would appear that in Anchorage the professional community would be better served by a strong summer program in telecommunication – one that might even be co-sponsored by another university.

Working within the academic community

At least some of the reasons for looking to the academic community in considering introduction, revision or even maintenance of a telecommunication program will be familiar to any faculty member who has ever considered whether a program should be submitted to the scrutiny of an outside accrediting team.

Second opinions can be valuable. If favorable, they can confer additional respectability to the program.

But the issues to be addressed as we talk about the future of telecommunication education are too large for a single institution to independently address. The place of telecommunication education in higher education is a subject that requires larger fora, such as the one that was offered at Temple University last year and the one that has been provided here today. One of the important issues discussed at Temple, for example, was the courses that should be included in a telecommunication program.

Telecommunication, from one perspective, is an academic discipline that has evolved from journalism programs. It could be maintained that, as a form of mediated communication, it is inseparable from the academic discipline of mass communication. But it must be acknowledged that it has other strong roots, including those running back to engineering programs. Other disciplines that can contribute to understanding of telecommunication include law, information

science, computer science, economics, and library science. Representatives of these and other disciplines must be sought out, listened to and incorporated in efforts to define telecommunication education.

Conclusions

UAA's situation is unique, but nonetheless the various ways of improving a telecommunication curriculum that it has considered may prove instructive for others who feel that they are working in environments unfavorable to the growth of telecommunication programs.

Regardless of any other factors, it is essential that community support be established before any major change is attempted. Community supporters become a program's lobbyists; they are the evidence that change is desired. An educational effort may be required to make community members aware of the issues and of their common interests. In Anchorage, this is being accomplished by bringing together members of the various telecommunication industries for two- and three-day conferences to learn about important issues and to identify common interests. It is necessary, however, to heed the caution voiced at the National Telecommunications Forum: "Care must be taken ... to avoid too much involvement by industry in program content."[23]

It may be possible to get a university to recognize that telecommunication is a major issue that it should formally recognize as deserving of academic attention. Outside pressure on universities to contribute to the economic development of the regions they serve may add weight to arguments for development of telecommunication programs. It will be easier – though not easy – to address curriculum change at the professional school or departmental level.

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[23] Dordick, "Summary ..." p. 3.

And, finally, universities have more individuality than do academic programs. That is probably as it should be. It is important to take advice from others in the larger academic community in developing a telecommunication program. Because telecommunication programs are so new, those engaged in developing them should be contributing to as well as learning from discussions such as the one taking place here today. We need to identify, work with, and learn from our peers.